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(12) **United States Patent**
Lemons

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- (54) **ALARM CHILD CAR SEAT**
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- (72) Inventor: **Robert Lemons**, Mission, TX (US)
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B60Q 1/00 (2006.01)
B60N 2/26 (2006.01)
B60R 21/015 (2006.01)
G08B 21/22 (2006.01)
- (52) **U.S. Cl.**
CPC .. **B60Q 1/00** (2013.01); **B60N 2/26** (2013.01);
B60R 21/01516 (2014.10); **G08B 21/22**
(2013.01)
- (58) **Field of Classification Search**
CPC B60N 2/002; B60N 2/26-2/28; G08B
21/22-21/24; B60R 21/01516; B60Q 1/00
See application file for complete search history.

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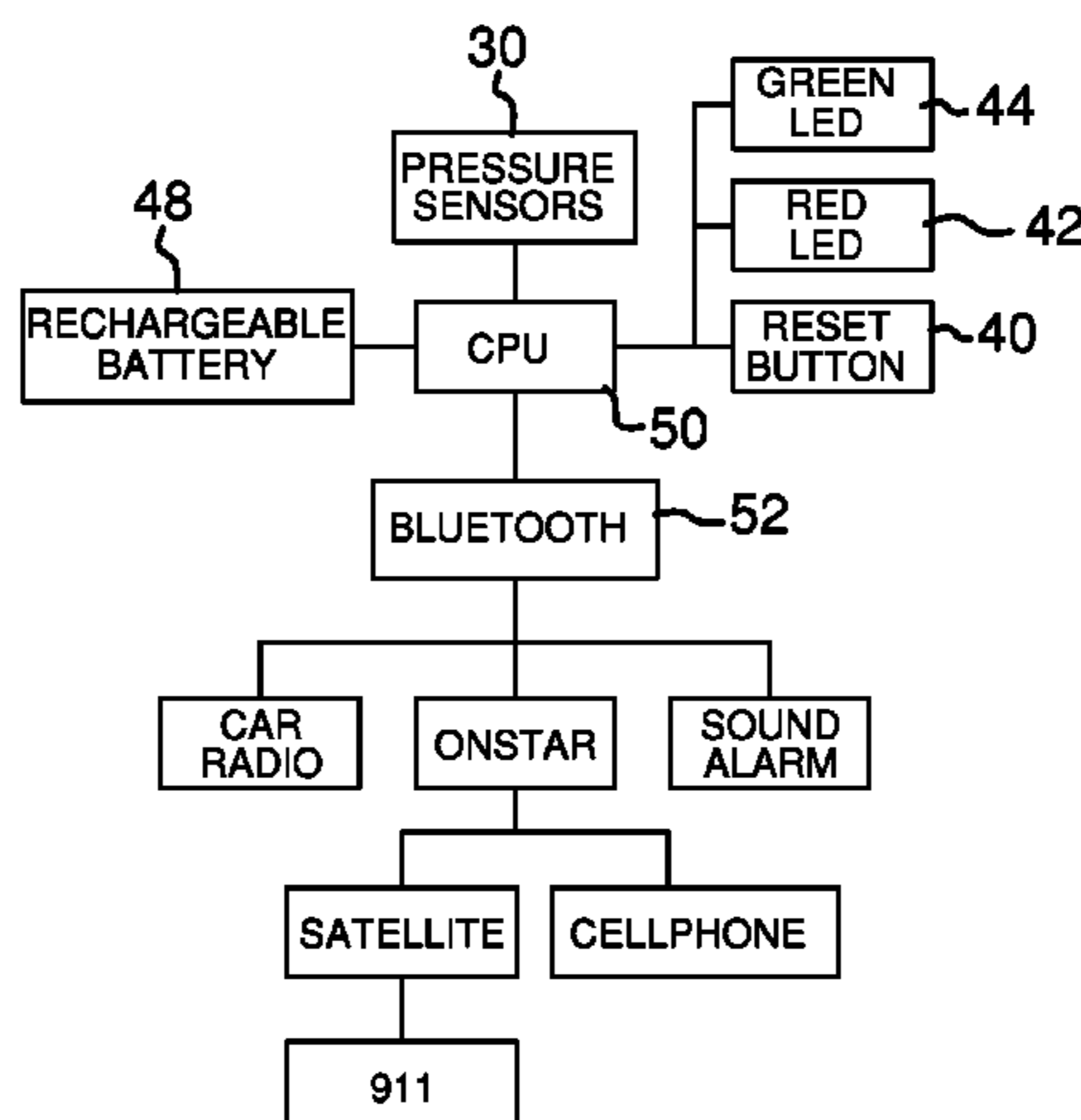
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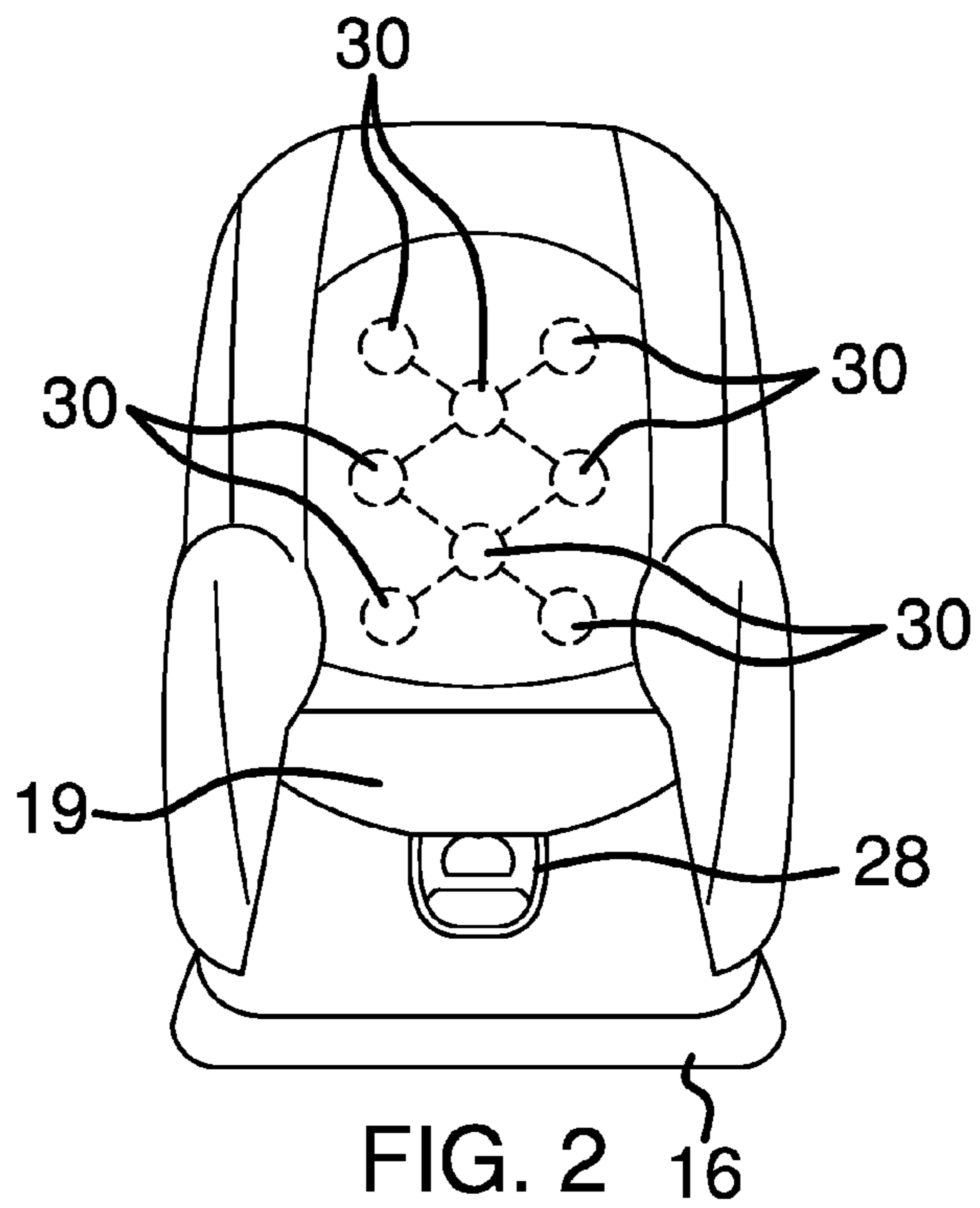
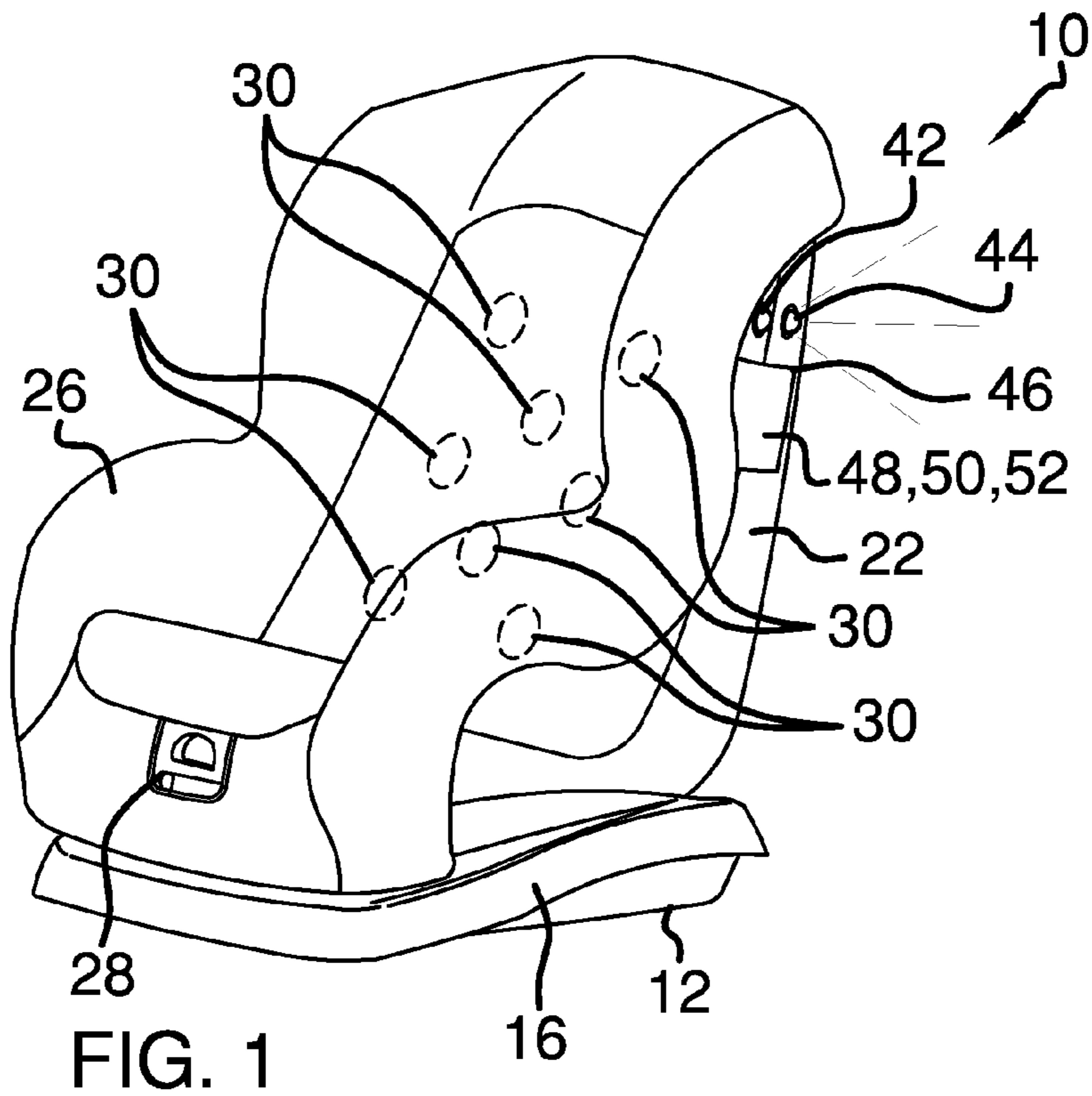
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(57) **ABSTRACT**

An alarm child car seat having a seat with a cushioned bolstered frame, a plurality of pressure sensors in the seat bottom and seat back, a reset button disposed within one seat side, a red light and green light disposed adjacent the reset button, a CPU and Bluetooth in operational communication with an existing vehicle's electronics, wherein a first alarm of the vehicle sounds within a thirty second time lapse, the pressure sensed, the ignition off, wherein a time lapse of 90 seconds initiates a second alarm, the second alarm a call from the Bluetooth to an existing cell phone, the first alarm continued, an answer of the cell phone discontinuing the first alarm and the second alarm; and wherein a time elapse of 300 seconds initiates third alarm that signals from the existing vehicle electronics to a 911 emergency service.

1 Claim, 4 Drawing Sheets





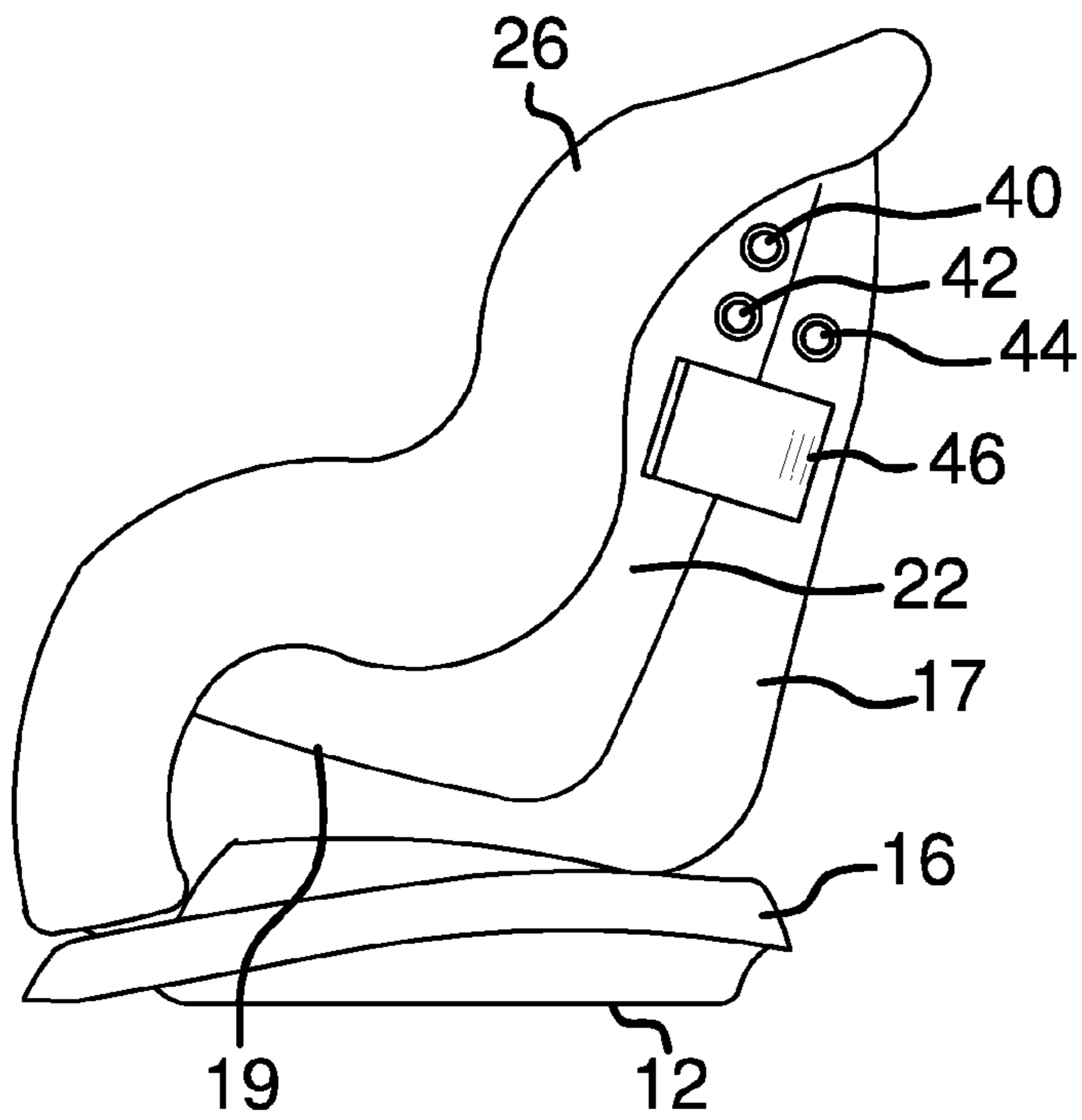


FIG. 3

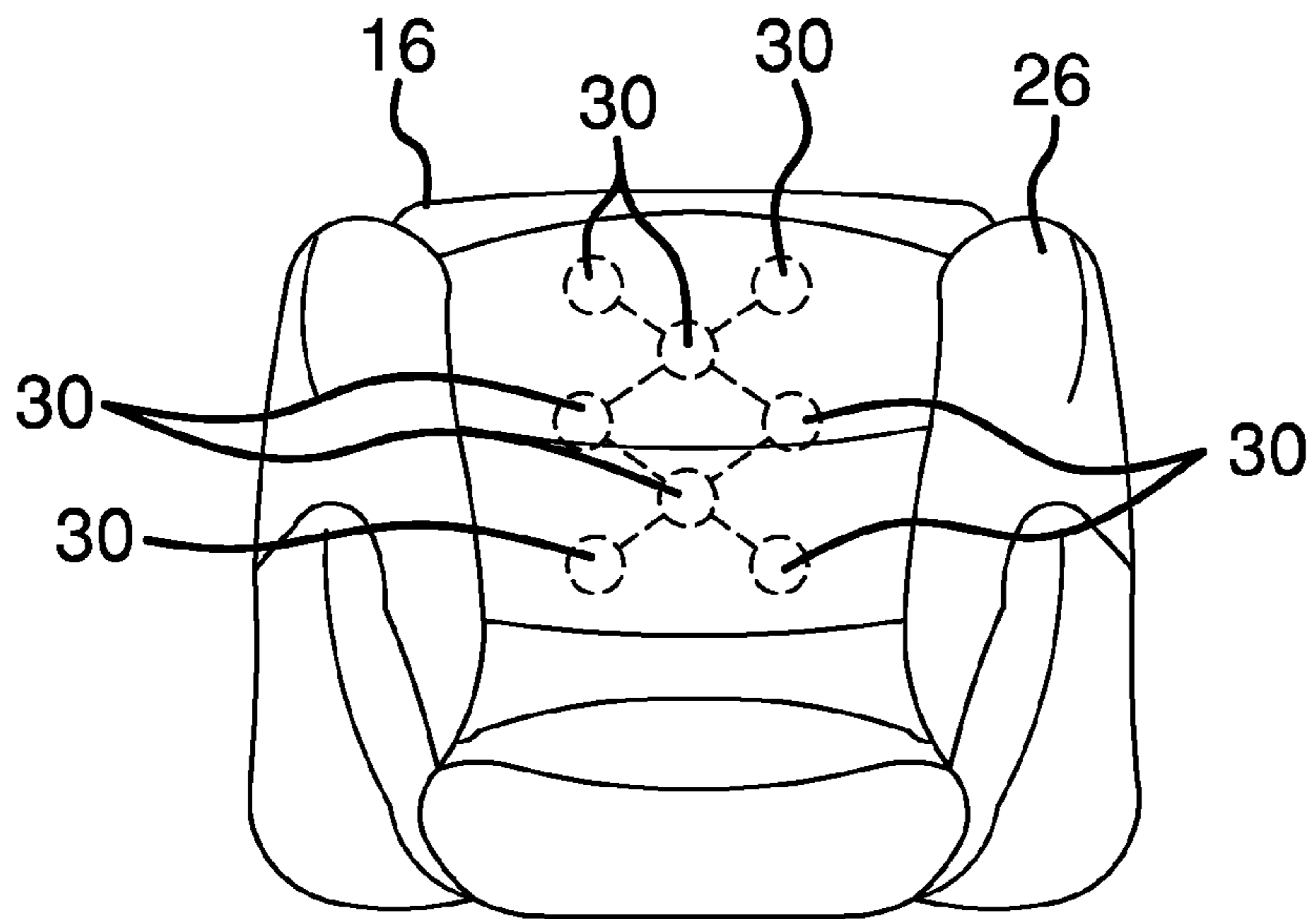


FIG. 4

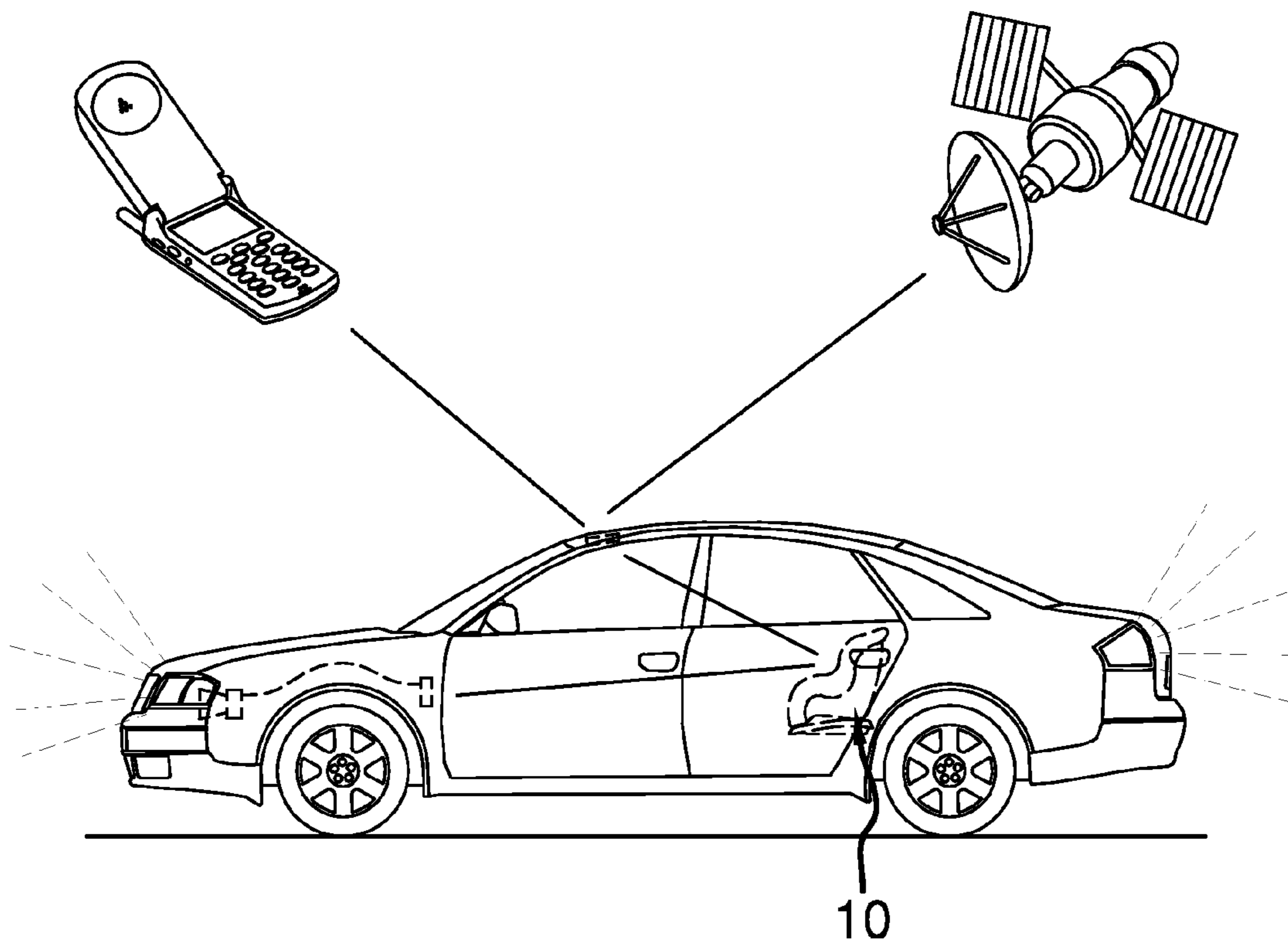


FIG. 5

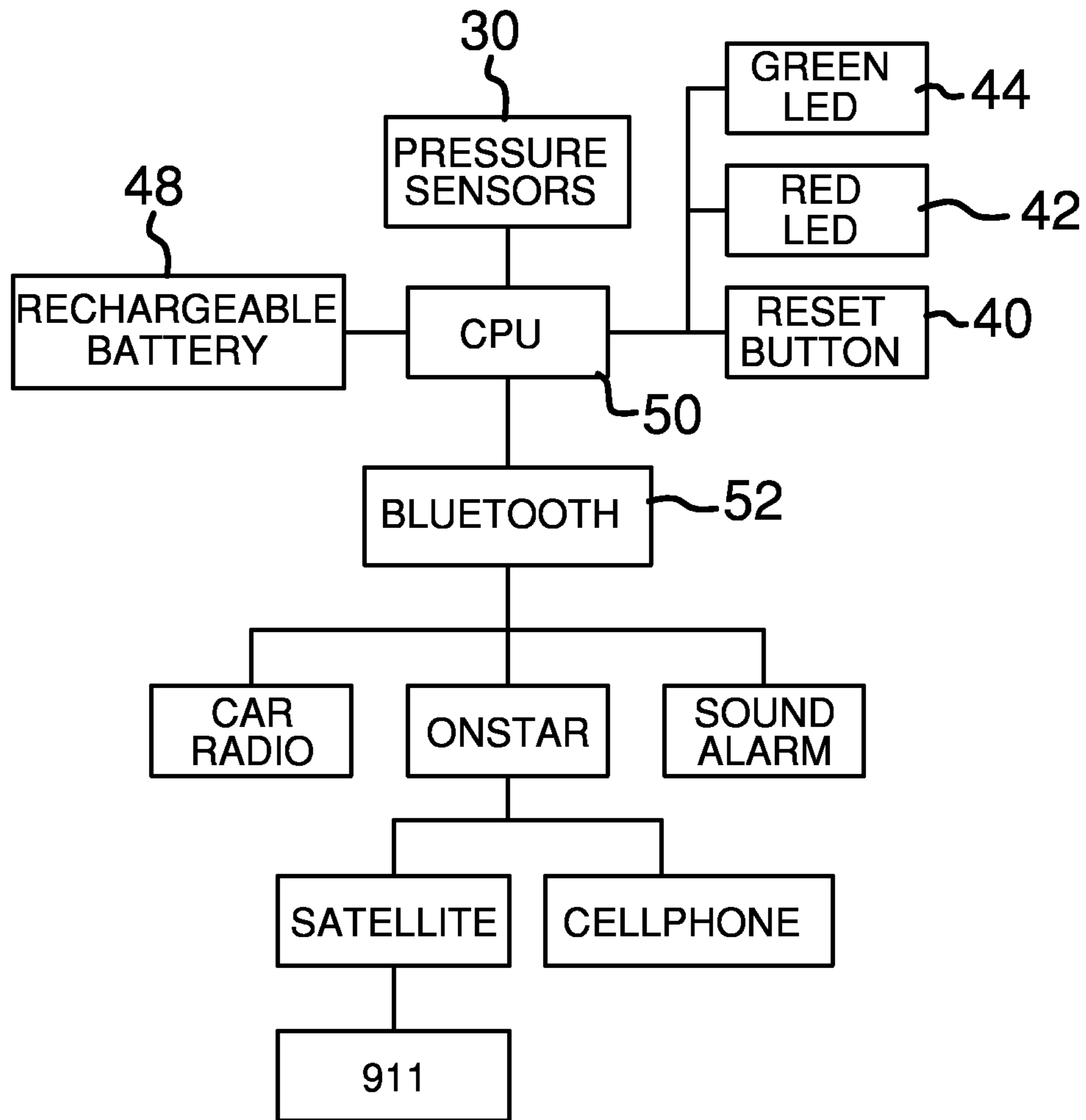


FIG. 6

1**ALARM CHILD CAR SEAT****CROSS-REFERENCE TO RELATED APPLICATIONS**

Not Applicable

FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not Applicable

INCORPORATION BY REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISK

Not Applicable

BACKGROUND OF THE INVENTION

Various types of child seat alarms are known in the prior art. Many offer on/off alarm function without various sequences of alarms and are therefore provide no gradients within which an operator can prevent false signals, especially when a signal to 911 is initiated. A sequence of elevated alarms is therefore desirable. Many current alarms do not offer an alarm reset without reinserting an ignition key, a less than desirable trait on occasion. For example, if keys are tossed into a purse prior to removing a child from a seat, then not recovered in time to reinsert into the ignition, the alarm is triggered. Most alarms and alarm seats do not then, as needed, provide an alarm reset on the seat itself, where reset is most conveniently needed. Additionally, alarms typically provide either a pressure sensing mechanism in the seat bottom, the seat back, or both, yet little children squirm around quite often and can cause malfunction by not providing sufficient pressure on sensors. What is needed is an alarm child car seat that is supplied as original equipment and interacts with existing equipment of the vehicle to progress through stages of alarms, an alarm seat ensuring correct sensing of pressure of any size child. The present alarm child car seat provides these advantages.

FIELD OF THE INVENTION

The present alarm child car seat relates to child seat alarms, and more particularly, to an alarm child car seat that that is supplied as original equipment, ensures accurate pressure sensing, and interacts with existing equipment of the vehicle to progress through stages of alarms.

SUMMARY OF THE INVENTION

The general purpose of the present alarm child car seat, described subsequently in greater detail, is to provide an alarm child car seat that has many novel features that result in an alarm child car seat which is not anticipated, rendered obvious, suggested, or even implied by prior art, either alone or in combination thereof.

To accomplish this, the alarm child car seat comprises an alarm seat comprising a bolstered frame having a seat back, a seat bottom, and a pair of spaced apart seat sides. A cushion surrounds a substantial portion of the seat back, the seat bottom, and the seat sides. A center belt fitting is disposed adjacent to the cushion in the seat bottom. A plurality of pressure sensors is provided. At least eight equally spaced apart pressure sensors is disposed throughout the seat back

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cushion. At least eight equally spaced apart pressure sensors are disposed throughout the seat bottom cushion.

A reset button is disposed within one seat side. A red light is disposed adjacent the reset button. A green light is disposed adjacent the reset button. An electronics case is disposed proximal the reset button. A CPU is disposed within the electronics case. The CPU is in operational communication with the reset button, the red light, and the green light. A battery is disposed within the electronics case. The battery is in operational communication with the CPU. A Bluetooth is disposed within the electronics case. The Bluetooth is in operational communication with the CPU.

The Bluetooth communicates with an existing vehicle's electronics. The CPU instructs the reset button, the red light, the green light and the Bluetooth. The green light is lit with pressure sensors to activate by a pressure with an ignition of the vehicle on. The existing vehicle electronics is in communication with the Bluetooth. A first alarm of the vehicle sounds within a 30 second time lapse if the pressure is sensed anywhere in the alarm seat by the pressure sensors and the ignition is off. A time lapse of 90 seconds initiates a second alarm. The second alarm comprises a call from the Bluetooth to an existing cell phone. The first alarm continues with the second alarm. An answer of the cell phone discontinues the first alarm and the second alarm. A time elapse of 300 seconds initiates a third alarm. The third alarm comprises a signal from the existing vehicle electronics to an emergency service. A push of the reset button restarts any of the time lapses.

The red light is on with a low battery condition so that a vehicle operator and any others may know that an empty alarm child car seat with any of the first, second, and third alarms may be a cause for an alarm malfunction and not emergency action.

The scheduled time lapses are extremely important to the function of the alarm child car seat. Time in excess of the 30 seconds for the first alarm could see a rushing vehicle operator too distant from the vehicle to discern that the alarm was in fact coming from that specific vehicle, especially since false alarms from various autos seem almost to surround us at times. Time in excess of the 90 second lapse for the second alarm might see a vehicle operator deep into a store, as example, and unable to receive a cell phone call due to oft experienced cell phone interference. And, initiating a third alarm sooner than a lapse of 300 seconds might see a 911 emergency service contacted prematurely and potentially thereby not capable of responding to an authentic call if the first is inaccurate.

Thus has been broadly outlined the more important features of the present alarm child car seat so that the detailed description thereof that follows may be better understood and in order that the present contribution to the art may be better appreciated.

BRIEF DESCRIPTION OF THE DRAWINGS**Figures**

FIG. 1 is a perspective view.

FIG. 2 is a front elevation view.

FIG. 3 is a lateral elevation view.

FIG. 4 is a top plan view.

FIG. 5 is an installed view.

FIG. 6 is a schematic block diagram of cooperation between an alarm child car seat and an existing vehicle.

DETAILED DESCRIPTION OF THE DRAWINGS

With reference now to the drawings, and in particular FIGS. 1 through 5 thereof, an example of the alarm child car

seat employing the principles and concepts of the present alarm child car seat and generally designated by the reference number **10** will be described.

Referring to FIGS. **1** through **5**, the alarm child car seat **10** is illustrated. The alarm child car seat **10** comprises an alarm seat **12** comprising a bolstered frame **16** having a seat back **17**, a seat bottom **19**, and a pair of spaced apart seat sides **22**. A cushion **26** surrounds a substantial portion of the seat back **17**, the seat bottom **19**, and the seat sides **22**. A center belt fitting **28** is disposed adjacent to the cushion **26** in the seat bottom **19**. A plurality of pressure sensors **30** is provided. At least eight equally spaced apart pressure sensors **30** is disposed throughout the seat back **17** cushion **26**. At least eight equally spaced apart pressure sensors **30** are disposed throughout the seat bottom **19** cushion **26**.

A reset button **40** is disposed within one seat side **22**. A red light **42** is disposed adjacent the reset button **40**. A green light **44** is disposed adjacent the reset button **40**. An electronics case **46** is disposed proximal the reset button **40**. A CPU **50** is disposed within the electronics case **46**. The CPU **50** is in operational communication with the reset button **40**, the red light **42**, and the green light **44**. A battery **48** is disposed within the electronics case **46**. The battery **48** is in operational communication with the CPU **50**. A Bluetooth **52** is disposed within the electronics case **46**. The Bluetooth **52** is in operational communication with the CPU **50**.

The Bluetooth **52** communicates with an existing vehicle's electronics. The CPU instructs the reset button **40**, the red light **42**, the green light **44** and the Bluetooth **52**. The green light **44** is lit with pressure sensors **30** to activate by a pressure with an ignition of the vehicle on. The existing vehicle electronics is in communication with the Bluetooth **52**. A first alarm of the vehicle sounds within a 30 second time lapse if the pressure is sensed anywhere in the alarm seat **12** by the pressure sensors **30** and the ignition is off. A time lapse of 90 seconds initiates a second alarm. The second alarm comprises a call from the Bluetooth **52** to an existing cell phone. The first alarm continues with the second alarm. An answer of the cell phone discontinues the first alarm and the second alarm. A time elapse of 300 seconds initiates a third alarm. The third alarm comprises a signal from the existing vehicle electronics to a 911 emergency service. A push of the reset button restarts any of the time lapses.

The red light **42** is on with a low battery **48** condition so that a vehicle operator and any others may know that an empty alarm child car seat **10** with any of the first, second, and third alarms may be a cause for an alarm malfunction.

What is claimed is:

1. An alarm child car seat comprising:
 - an alarm seat comprising a bolstered frame having a seat back, a seat bottom, and a pair of spaced apart seat sides;
 - a cushion surrounding a substantial portion of the seat back, the seat bottom, and the seat sides;
 - a center belt fitting disposed adjacent to the cushion in the seat bottom;
 - a plurality of pressure sensors, wherein the plurality of pressure sensors comprises at least eight equally spaced apart pressure sensors disposed throughout the seat back cushion and at least eight equally spaced apart pressure sensors disposed throughout the seat bottom cushion;
 - a reset button disposed within one seat side;
 - a red light disposed adjacent the reset button;
 - a green light disposed adjacent the reset button;
 - an electronics case disposed proximal the reset button;
 - a central processing unit (CPU) disposed within the electronics case, the CPU in operational communication with the reset button, the red light, and the green light;
 - a battery disposed within the electronics case, the battery in operational communication with the CPU; and
 - a Bluetooth module disposed within the electronics case, the Bluetooth module in operational communication with the CPU;
- wherein the Bluetooth module communicates with an existing vehicle's electronics;
- wherein the green light is lit with the plurality of pressure sensors activated by a pressure with an ignition of the vehicle on;
- wherein the red light is on with a low battery condition;
- wherein a first alarm of the vehicle sounds within a thirty second time lapse of a time lapse cycle while the pressure is sensed and the ignition off;
- wherein a time lapse of 90 seconds of the time lapse cycle initiates a second alarm, the second alarm comprising a call from the Bluetooth module to an existing cell phone while the first alarm is continued;
- wherein an answer of the cell phone discontinues the first alarm and the second alarm;
- wherein a time lapse of 300 seconds of the time lapse cycle initiates a third alarm, the third alarm comprising a signal from the existing vehicle's electronics to a 911 emergency service; and
- wherein a push of the reset button restarts the time lapse cycle.

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